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|---|---|
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| ART UNIT | PAPER NUMBER |
| 2661 | |

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/693,251 | VICISANO ET AL. |
| | Examiner | Art Unit |
| | Joshua Kading | 2661 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1 and 4-78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 32-36, 38-44, and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,693,907 B1, Wesley et al. (Wesley).

Regarding claims 32 and 33, Wesley discloses "a router controlling congestion on links attached to the router, said router comprising:

a plurality of ports (*figure 1, node 14b for example has a plurality of ports as indicated by the input/output paths to the node*);

a first port of said plurality of ports for receiving a data packet (*figure 1, node 14b shows a first port entering node 14b from node 12 which is capable of receiving a data packet*);

a second port of said plurality of ports for transmitting said data packet in a downstream direction (*figure 1, node 14b shows a second port connected to node 14d which is downstream as defined in col. 1, lines 28-33*);

a processor configured to determine loss of packets on selected ports of said plurality of ports, (*figure 3, element 20c shows a processor used in a node and the determination of a loss of packets occurs as seen in figure 7, element 128*) and, in response to said loss of packets, to calculate a loss rate statistic (*figure 3, element 20c shows a processor used in calculating a loss rate statistic, or the loss metric discussed in col. 10, lines 10-14*);

a transmitter to transmit an outgoing loss report message through said first port in an upstream direction, said outgoing loss report message containing a field having said loss rate statistic written therein (*figure 3, element 20d works as a transmitter and receiver to send and receive data from the network, further the child nodes of figure 1 send the loss statistic data to the parent node upstream, support for this is read in col. 9, lines 29-32*)."

Regarding claim 34, Wesley discloses "the router of claim 33, further comprising: a receiver to receive an incoming loss report message on said second port said loss report traveling in said upstream direction (*figure 3 shows a generic node of figure 1 where the network interface 20d receives/transmits data, the loss report message, the value of the retransmission count, is transmitted in the upstream direction with the packet as read in col. 8, lines 42-45 to the node, which is then used to update the RX-RPC*); and said processor to calculate said loss rate statistic in response to said loss of packets and in response to said loss report (*figure 3, element 20c shows a processor*

*used in calculating a loss rate statistic, or the loss metric discussed in col. 10, lines 10-14*)."

Regarding claim 36, Wesley discloses "the router of claim 33, further comprising: said loss rate statistic is a time averaged loss rate (*col. 10, lines 10-14 where "the measurement interval" indicates that the loss rate statistic is a time averaged loss rate of a number of missing packets during that interval*)."

Regarding claims 38 and 39, Wesley discloses "the router of claim 33, further comprising: a central processor (CPU) forwarding engine, said CPU forwarding engine determining which port said outgoing loss report message is to be transmitted (*figure 3, element 20a where the CPU controls the transmission of the router and thusly the port which data is transmitted out*)."

Regarding claim 40, Wesley discloses "said outgoing loss report message is carried in a NAK packet (*col. 5, lines 1-3 where the repair head is the sender node and as described in claim 1 the loss metric is sent by way of a message, such as the NACK described in col. 5, to the sender node so that it may control the flow of messages to the receiving nodes*)."

Regarding claim 41, Wesley discloses "said outgoing loss report message is transmitted by said router in response to the router receiving a loss report message

from a down stream router (*col. 5, lines 1-3 in conjunction with figure 1, where it is strongly implied that if a receiver node 14 g for instance, sends a NACK message it is destined for the source node 12, the only path to that node is through other receiving nodes, therefore the loss report message, or NACK message, must be sent through other routing nodes to get to the source node*)."

Regarding claim 42, Wesley discloses "said loss report message is periodically transmitted by said router (*col. 5, lines 10-14 where "staggering" is periodically transmitting the message*)."

Regarding claims 43 and 44, Wesley discloses "means for receiving said outgoing loss report message is received at a source station of a multicast distribution tree (*col. 5, lines 1-3 and figure 1, where figure 1 is a multicast distribution tree and the repair head is the source node 12*), means for controlling, in response to receiving said outgoing loss report message, a transmission rate of data packets transmitted by said source station in said multicast distribution tree based on the value of said loss rate statistic stored in said outgoing loss report message (*col. 9, lines 45-54 where the slowness metric is the same as the loss rate statistic which is sent to the source node to determine transmission rate*)."

Regarding claim 46, Wesley discloses "said outgoing loss report message stores a lifetime associated with said loss rate statistic, said lifetime indicating a duration of

time for which said loss rate statistic is valid (*col. 9, lines 10-19 where the effect of recalculating the loss metric at predetermined intervals is the same as giving a lifetime to the loss report message; by recalculating the loss metric at predetermined intervals the previous loss metric, which was sent in the previous loss report message, is good only until the current interval reaches its end, once this happens the previous loss metric is no longer valid and the newly calculated metric's lifetime begins*)."

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-27, 30, 31, 35, 37, 47, 48-58, 60-72, and 74-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wesley et al. (U.S. Patent 6,693,907 B1).

Regarding claims 1, 5, 13, 15, 23, 24, 25, 75, and 76, Wesley discloses routers of claims 1, 5, and 23, the methods of claims 13 and 15, the computer programs of claims 24, 25, 75, and 76 for implementing the methods of claims 13 and 15 using computer readable instructions or electromagnetic signals (*col. 11, lines 18-21 where the routers receive electromagnetic signals on their input/output lines which cause*

*programs within the router to be executed*). The routers comprising: "a router controlling congestion on links attached to the router, said router comprising:

a plurality of ports (*figure 1, node 14b for example has a plurality of ports as indicated by the input/output paths to the node*);

a first port of said plurality of ports for receiving a data packet (*figure 1, node 14b shows a first port entering node 14b from node 14d for example*);

a second port of said plurality of ports for transmitting said data packet (*figure 1, node 14b shows a second port connected to node 12*);

a receiver to receive an incoming loss report message on said second port (*figure 3 shows a generic node of figure 1 where the network interface 20d receives/transmits data, the loss report message, the value of the retransmission count, is transmitted with the packet as read in col. 8, lines 42-45 to the node, which is then used to update the RX-RPC*);

a...processor to determine loss of packets on selected ports of said plurality of ports (*figure 3, element 20c shows a processor used in a node and the determination of a loss of packets occurs as seen in figure 7, element 128*);

a...processor to calculate, in response to said incoming loss report message and said loss of packets, a loss rate statistic (*figure 3, element 20c shows a processor used in calculating a loss rate statistic, or the loss metric discussed in col. 10, lines 10-14*);

a transmitter to transmit an outgoing loss report message through said first port, said outgoing loss report message containing a field having said loss rate statistic written therein (*figure 3, element 20d works as a transmitter and receiver to send and*

*receive data from the network, further it is strongly suggested the child nodes of figure 1 send the loss statistic data to the parent node of figure 1, see col. 9, lines 29-32*),

wherein said loss rate statistic is a time averaged loss rate (*col. 10, lines 10-14 where "the measurement interval" indicates that the loss rate statistic is a time averaged loss rate of a number of missing packets during that interval*)."

However, Wesley explicitly lacks that there are two processors, "a first processor" and "a second processor" to execute the determining of a lost packets and the calculating of a loss statistic respectively. Although there is no mention of two processors, Wesley does disclose a single processor.

It would have been obvious to one of ordinary skill in the art at the time of invention to break up a single processor into two different processors as a matter of design choice. This is not only indicated by applicant's originally presented claims 2 and 3, but also by the fact that the same results are generated by the single processor of Wesley as the two processors in the claims. The motivation for using a single processor or a double processor would be to execute tasks necessary for routing of data through the processor controlled router.

Regarding claims 47, 61, 77, and 78, Wesley discloses a router of claim 61, a method of claim 47, and the computer programs of claims 77 and 78 for implementing the method of claim 47 using computer readable instructions or electromagnetic signals (*col. 11, lines 18-21 where the routers receive electromagnetic signals on their*

*input/output lines which cause programs within the router to be executed*). The "router, comprising:

means for receiving a data packet traveling in a downstream direction at a first port (*col. 8, lines 14-15 where the packet is traveling in a downstream direction as defined in col. 1, lines 28-33*)...

means for computing a loss of packets on selected ports of said router (*col. 8, lines 66-col. 9, lines 1-3*);

means for calculating, in response to said incoming loss report message and said loss of packets, a loss rate statistic (*col. 10, lines 11-15 where the experienced loss is the loss metric of col. 9*);

means for transmitting an outgoing loss report message through said first port in an upstream direction, said outgoing loss report message containing said loss rate statistic in a field of said outgoing loss report message (*col. 9, lines 29-32 where the slowness metrics are again the loss metrics calculated by the receiving nodes and then sent to the sending node, which is upstream, for further processing*)."

However, Wesley explicitly lacks "means for transmitting a replica of said data packet from a second port in said downstream direction..." Although Wesley does not explicitly discuss transmitting replica data packets from a second port, it is strongly suggested that this is the case through not only the inherent operation of routing packets through a router, but as disclosed in col. 8, lines 14-15 in conjunction with figure 1. The messages destined for node 14g from the sending node for instance, must be

replicated at each receiver node on the path from the sending node on its way to node 14g.

It would have been obvious to one with ordinary skill in the art at the time of invention to have the data packets replicated at the receiver node for the purpose of each node in a path keeping track of lost or missing packets. The motivation for keeping track of lost or missing packets is so that the multicast tree can provide reliability support in the form of transmission rate control so that congestion can be avoided or dealt (*Wesley, col. 1, lines 34-41*).

Regarding claims 4, 14, 35, 49, and 63, Wesley does note explicitly state that "said loss rate statistic is a largest loss rate in a set of loss rates determined for said selected ports of said plurality of ports." Although Wesley does not choose the "largest" loss rate statistic, it would have been obvious to one with ordinary skill in the art to choose the largest statistic because a connection is only as good as its weakest link, i.e. the largest loss rate dominates the connections usefulness in transmitting data. Further, it appears that either a largest or averages loss rate would be dependent on the design of the system. This is supported by applicant's claim to both a loss rate statistic as an average as in claim 5 and as a largest loss rate as in claim 4. Both instances of determining the loss rate statistic are merely different manipulations of the same received data. The motivation for whether the data are used to calculate a time averaged statistic or simply chosen as the largest loss rate statistic is a matter of designer and system preference. One holds no advantage over the other. They both

achieve the same result of data rate monitoring and adjusting based on system performance.

Regarding claims 6, 37, 51, and 65, Wesley discloses, "a linecard supporting at least one of said plurality of ports, said linecard having a linecard processor and a memory mounted thereon, said linecard processor a computing said loss of packets (*figure 3 shows a device that is the functional equivalent of a linecard in that it receives and transmits data to and from the node and the network, further the device has a memory 20b and a processor 20a*)."

Regarding claims 7, 18, 54, and 68, Wesley further discloses, "means for carrying said outgoing loss report message is carried in a NAK packet (*col. 5, lines 1-3 where the repair head is the sender node and as described in claim 1 the loss metric is sent by way of a message, such as the NACK described in col. 5, to the sender node so that it may control the flow of messages to the receiving nodes*)."

Regarding claims 8, 9, 55, and 69, Wesley further discloses, "means for transmitting said outgoing loss report message by said router in response to the router receiving a loss report message from a down stream router (*col. 5, lines 1-3 in conjunction with figure 1, where it is strongly implied that if a receiver node 14 g for instance, sends a NACK message it is destined for the source node 12, the only path to*

*that node is through other receiving nodes, therefore the loss report message, or NACK message, must be sent through other routing nodes to get to the source node*)."

Regarding claims 10, 20, 56, and 70, Wesley further discloses, "means for transmitting said loss report message is periodically transmitted by said router (*col. 5, lines 10-14 where "staggering" is periodically transmitting the message*)."

Regarding claims 11, 12, 52, 53, 66, and 67, Wesley further discloses, "means for determining which port said outgoing loss report message is to be transmitted by a central processor (CPU) forwarding engine (*figure 3, element 20a where, as is known in the art, the CPU controls the transmission of the router and thusly the port which data is transmitted out*)."

Regarding claims 16 and 17, Wesley further discloses, "determining a loss rate statistic which has not expired for at least one port of said router, where said at least one port includes all ports of a multicast group distribution tree of said multicast group (*col. 9, lines 10-19 where the effect of recalculating the loss metric at predetermined intervals is the same as having the previous loss metric expire when the new loss metric is calculated; while the packets of the interval are arriving, the current loss metric is valid and thus the loss metric is determined for the given port of the distribution tree of figure 1*); writing said loss rate statistic into said outgoing loss report message before transmitting said outgoing loss report message (*col. 9, lines 29-32 where the slowness*

*metrics are the loss metrics calculated by the receiving nodes and then sent to the sending node as outgoing loss report messages*)."

Regarding claim 19, Wesley further discloses, "transmitting said outgoing loss report message in response to receiving said incoming loss report message (*figure 1 in conjunction with col. 9, lines 29-32 where it is suggested that if a node 14g for instance, transmits a loss report message that is destined for the sending node 12, then this message must be sent through the tree to the sending node and thus each receiving node that receives the incoming loss report message will then generate an outgoing loss report message for the sending node*)."

Regarding claim 21, Wesley further discloses, "transmitting said outgoing loss report message as a unicast message to the next upstream router capable of responding to said loss report message (*col. 9, lines 29-32 where it is implied that the slowness metric contained in the loss report message is only destined for the sending node, thusly the message is a unicast message because it is only destined for one node, the sending node*)."

Regarding claim 22, Wesley lacks "transmitting said outgoing loss report message as a multicast message." Although Wesley does not state the loss report message is multicast, it would have been obvious to one with ordinary skill in the art at the time of invention to have the loss report message transmitted as multicast instead of

unicast as a matter of design choice. The reason being that the intended recipients of a message are chosen during formation of the data packet and since the intended recipients of a message depend on network structure and the network's ability to forward messages to other nodes, the message will thusly be sent according to network design and structure. The motivation for sending data multicast or unicast is to transmit data from one point to another, i.e. communication.

Regarding claims 30, 31, 60, and 74, Wesley further discloses, "means for associating with said loss rate statistic a lifetime for aging said loss rates statistic (*col. 9, lines 10-19 where the effect of recalculating the loss metric at predetermined intervals is the same as giving a lifetime to the loss report message*); means for determining whether said loss rate statistic is valid based on the value of said lifetime associated with said loss rate statistic (*col. 9, lines 10-19 while the current interval is still receiving its allotted number of packets the loss rate statistic most recently calculated is valid*); and means for writing, in response to determining that said loss rate statistic is valid, said loss rate statistic into said outgoing loss report message before transmitting said outgoing loss report message (*col. 9, lines 10-19 since the current interval has not ended, the current loss rate statistic is valid and put in a message and sent to the sending node as described in col. 9, lines 29-32*)."

Regarding claims 26, 27, 57, 58, 71, and 72, Wesley further discloses, "means for receiving said outgoing loss report message is received at a source station of a

multicast distribution tree (*col. 5, lines 1-3 and figure 1, where figure 1 is a multicast distribution tree and the repair head is the source node 12*), means for controlling, in response to receiving said outgoing loss report message, a transmission rate of data packets transmitted by said source station in said multicast distribution tree based on the value of said loss rate statistic stored in said outgoing loss report message (*col. 9, lines 45-54 where the slowness metric is the same as the loss rate statistic which is sent to the source node to determine transmission rate*)."

Regarding claims 48 and 62, Wesley further discloses, "means for receiving an incoming loss report message on said second port, said loss report traveling in said upstream direction (*col. 5, lines 1-8 where the loss report message, NACK message, is sent from the receiver nodes of figure 1 to the sender node, the receiver nodes lower in the tree must send these NACK messages through other nodes, thus a receiver node is capable of receiving a NACK message on a second port en route to the sender node*); and means for calculating said loss rate statistic in response to said loss of packets and in response to said loss report (*figure 3, element 20c shows a processor used in calculating a loss rate statistic, or the loss metric discussed in col. 10, lines 10-14*)."

Regarding claims 50 and 64, Wesley further discloses, "means for calculating said loss rate statistic as a time averaged loss rate (*col. 10, lines 10-14 where "the measurement interval" indicates that the loss rate statistic is a time averaged loss rate of a number of missing packets during that interval*)."

5. Claims 28, 29, 45, 59, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wesley et al. in view of U.S. Patent 5,715,177, Machida et al. (Machida).

Regarding claims 28, 29, 45, 59, and 73, Wesley lacks what Machida discloses "means for calculating an absolute value of a fractional change of said loss rate statistic as compared with a previous loss rate statistic (*figure 4, element 52 is used as described generally in col. 2, lines 36-48, although Machida does not explicitly talk about a loss report message Wesley discloses the loss report message, this combined with the concept from Machida is what is being used for claim 28; further the fractional change in data is simply the difference between the currently received data and the previous data, any number (including a difference) can be represented in a fractional way*); and means for preventing, in response to said calculated absolute value being less than or equal to a predetermined limit value, transmission of said outgoing loss report message (*figure 4, element 56 as described more specifically in col. 6, lines 45-48 where if the difference is smaller than a threshold, then the message is not sent*)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the predetermined limit value and comparison of data for the purpose of not having the system become overburdened with messages in response to differences in data even if the differences are minute. The motivation for not overburdening the system with these messages is so that when there are large discrepancies between the data, the system can use its resources to efficiently process

the information instead of the resources being used up by inconsequential messages (*Machida, col. 2, lines 45-48*).

***Response to Arguments***

6. Applicant's arguments filed 18 November 2004 have been fully considered but they are not persuasive.

Applicant's main assertion as to why Wesley, in combination or alone, does not read on the claimed invention is because Wesley's "loss metric", calculated using a count of retransmitted packets and a count of received packets, is not the same as applicant's "loss rate statistic", calculated using an incoming loss report message and a loss of packets. Applicant further asserts that Wesley does not read on the claimed invention because Wesley does not transmit the loss metric to all upstream routers (*see REMARKS, page 25, last full paragraph*). The examiner respectfully disagrees.

Regarding the calculation of Wesley's "loss metric." The claimed invention gives no indication that the loss rate statistic cannot be calculated as in Wesley, especially given the fact that Wesley's "loss metric" is calculated using the same variables as applicant's loss rate statistic. Wesley's "count of retransmitted packets" is the same as applicant's "loss of packets" because a retransmitted packet is effectively a response to a lost packet and this is the very reason the packets are being retransmitted, see Wesley, col. 8, lines 43-46 for further proof of this. Wesley's "count of received packets" is the same as applicant's "incoming loss report message" because "the count of received packets" is reporting which packets have been received, and thus which

packets have not been received. Therefore, the "count of received packets" is a type of "loss report message." Lastly, although Wesley does not explicitly state that the "loss metric" is a statistic, it is clear from the calculation of "the loss metric," that it is a statistic, see Wesley, col. 10, lines 12-15 where the "loss metric" (i.e. Experienced Loss) is given as a value less than 1. This is the very definition of a statistic -- a value between 0 and 1.

Regarding the transmission of the loss metric to all upstream routers. There is no indication in the claim language that the loss metric (i.e. the loss statistic) is transmitted to all upstream routers. The claim language simply says that the loss metric is transmitted "in an upstream direction," see claim 47 for example. Since there is no indication as to how many upstream routers the loss metric is transmitted or how the loss metric is calculated, the rejections are maintained.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joshua Kading
Examiner
Art Unit 2661

May 6, 2005

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600